



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

SWA6A-4-OH
Job Sheet 176762



Part No: SWA6A-4-OH

Job Qty: 1 ea

Part Name: Electric Swivel 6,000 lb Safe Work Load (2,721 kg)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/30/18

Job Tracking No: RA150 SN: ACQ9002

Due Date: 5/14/18

Created By: Michelle Gagnon-Donovan

Type: Return

Description:

Note: DWG SWA6A Rev. 4 IPP Rev. A 18.04.27 new issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Start up Operation	1 Ea	5/14/18	5/14/18	0.00	0.00	Start Up Small Fab-4		SB
110	Small Fab	1 pcs	5/14/18	5/14/18	0.00	1.00	Small Fab-9		AP
120	QC	1 pcs	5/14/18	5/14/18	0.00	0.00	QC5		SB
130	Customer Acceptance	1 pcs	5/14/18	5/14/18	0.00	0.00			
140	Outsource	1 pcs	5/14/18	5/14/18			SKY002-VC 39812		CH 18/05/18 AT 18/05/18
150	Packaging	1 pcs	5/14/18	5/14/18	0.00	0.00	Packaging2		35
160	QC	1 pcs	5/14/18	5/14/18	0.00	0.00	QC6		35
170	Small Fab	1 pcs	5/14/18	5/14/18	0.00	1.00	Small Fab-9		9-89 AP
180	QC	1 pcs	5/14/18	5/14/18	0.00	0.00	QC5		SB
185	DC	1 pcs	5/14/18	5/14/18	0.00	0.00	DC		
190	Packaging	1 pcs	5/14/18	5/14/18	0.00	0.00	Packaging3-2		Smp
200	QC21-FG	1 Ea	5/14/18	5/14/18	0.00	0.00	QC21		DAS

Part Op 110 - RA: TEST ASSEMBLY. DISASSEMBLE ASSEMBLY. INSPECT DAMAGE PART.

Descriptions: 170 - RE-ASSEMBLE. ***All assembly to be done in accordance with manual*** TEST ASSEMBLY.

185 - Photocopy blue file O&OPM-SWA6A Rev.2



Container No: S068421



Part: SWA6A-4

Job No: 176762

Serial No/Batch: S068421

Revision: 4

Inspector:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 05/04/18

USED: AEROSHELL GREASE NO: 7
(M138724)
: LOCTITE 242 (M138762)
: SILICONE GE (M138765)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
SWA6A-4-AR	Electric Swivel 6,000 lb Safe Work Load (2,721 Kg)	1 Ea (1 ea)	100-Start up Operation	
188-FPSS-1032-1/2	Set Screw	1 Ea (1 ea)	170-Small Fab	
188-FSCS-1032-5/8	Screw	4 Ea (4 ea)	170-Small Fab	
C45-15-13	Sleeve	1 Ea (1 ea)	170-Small Fab	
EL414-ARTIC	4 Wire	6 ft (6 ea)	170-Small Fab	
SWA6A-100	Lower End	1 Ea (1 ea)	170-Small Fab	
SWA6A-1100	Upper Bearing	1 Ea (1 ea)	170-Small Fab	
SWA6A-1200	Lower DU Bearing	1 Ea (1 ea)	170-Small Fab	
SWA6A-1300	Lower Thrust Bearing	1 Ea (1 ea)	170-Small Fab	
SWA6A-1400	Circlip Internal	1 Ea (1 ea)	170-Small Fab	
SWA6A-1800	Cover	1 Ea (1 ea)	170-Small Fab	
SWA6A-1900	Female Spade Terminal - 1/4"	4 Ea (4 ea)	170-Small Fab	
SWA6A-200	Upper End	1 Ea (1 ea)	170-Small Fab	
SWA6A-2000	1/8" Female Spade Connector	4 Ea (4 ea)	170-Small Fab	
SWA6A-300	Bearing Housing	1 Ea (1 ea)	170-Small Fab	
SWA6A-400	Thrust Washer	1 Ea (1 ea)	170-Small Fab	
SWA6A-500	Semi Rings	1 Ea (1 ea)	170-Small Fab	
SWA6A-600	Collar	1 Ea (1 ea)	170-Small Fab	
SWA6A-700A	Wire Clamp	2 Ea (2 ea)	170-Small Fab	
SWA6A-800B	Connector Bushing	1 Ea (1 ea)	170-Small Fab	
SWA6A-900C	Rotary Contact	1 pcs (1 ea)	170-Small Fab	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	SWA6A-4	1	0	0
170-Small Fab	188-FPSS-1032-1/2	1	86	0
	188-FSCS-1032-5/8	4	257	0
	C45-15-13	1	6	0
	EL414-ARTIC	6	347	0
	SWA6A-100	1	2	0
	SWA6A-1100	1	0	0
	SWA6A-1200	1	30	0
	SWA6A-1300	1	11	0
	SWA6A-1400	1	20	0
	SWA6A-1800	1	0	0
	SWA6A-1900	4	272	0
	SWA6A-200	1	1	0
	SWA6A-2000	4	148	0
	SWA6A-300	1	0	0
	SWA6A-400	1	1	0
	SWA6A-500	1	1	0
	SWA6A-600	1	1	0
	SWA6A-700A	2	8	0
	SWA6A-800B	1	0	0
	SWA6A-900C	1	0	0

Part Specifications

Specifications could not be found.

Plex 4/30/18 2:35 PM Dart.Gagnon.Michelle

Inspection Sheet Complete RA150

Customer QA Ref #

0

Part Number	Batch / Serial #	Quantity	Part Complete	Rev/CHG Current	New Paperwork	New Labels	Disposition	Work order #	Work order instructions
C60	SN 6071, M994-03	2	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S041605(6071); and S052546(M994-03)	Customer supplied part. Customer sending C60 SN 6071 to be overhaul. Perform overhaul and return to customer. Customer also sending C60 M994-03 to be overhaul. C60 was received with cage. Remove from cage, perform overhaul, re-install hook to cage and return to customer.
C45	AC11007	1	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S050438	Customer supplied part. Customer sending C45 AC11007 to be overhaul. C60 was received with cage. Remove from cage, perform overhaul, re-install hook to cage and return to customer.
SWA6A-2	AC10006, AC11003, AC4006,	3	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S041058(AC10006); S041604(AC11003); S042053(AC4006)	Customer supplied part x3. Customer sending SWA6A-2 AC4006, AC11003 and AC4006 to be overhaul. Perform overhaul and return to customer.
SWA6A-4	AC09002 AC09001	2	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S041603(AC09002) and S061865(AC09001)	Customer supplied part x2. Customer sending SWA6A-4 serial# AC09002 and AC09001 for testing. Perform test as per Electric Swivel SWA6A. Return to customer.
P5400-100	AC09003	1	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S052552(AC09003)	Customer supplied part. Customer sending longline P5400-100 serial# AV09003 for inspection Send out for pull test. Return to customer.
P5400-50	AC09002	1	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S041056(AC09002)	Customer supplied part. Customer sending longline P5400-50 serial# AV09002 for inspection Send out for pull test. Return to customer.
P7300-150	BMMG722	1	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S050439(BMMG722)	Customer supplied part. Customer sending longline P7300-150 serial# BMMG722 for inspection Send out for pull test. Return to customer.
P7300-50	AC09001, AC09002	2	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S041057(AC09001) and S052555(AC09002)	Customer supplied part. Customer sending qty2 of longlines P7300-50 serial# AC09001 and AC09002 for inspection Send out for pull test. Return to customer.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐			

C2-6HC	AC09001, AC09002	2	☐ yes	☐ yes	☐ yes	☐ yes	CUSTOMER SUPPLIED	S061883(AC9001) and S061884(AC09002)	Customer supplied part qty 2. 1.Customer sending C2-6HC serial# AC09001 for overhaul. Carousel C2-6HC was received with all C2 hook install serial# M987-07, M987-10, M987-11, M987-12, M987-13, and M987-14 Disassemble and perform overhaul on carousel and all C2 hook as per manual and record all finding as per test sheet. Reinstall and return to customer. 2.Customer sending C2-6HC serial# AC09002 for overhaul. Carousel C2-6HC was received with all C2 hook install serial# M987-09, M987-16, M987-17, M987-18, M987-20, and M987-22 Disassemble and perform overhaul on carousel and all C2 hook as per manual and record all finding as per test sheet. Reinstall and return to customer
C2(These Hooks are part of C2-6HC above)		12	☐ yes	☐ yes	☐ yes	☐ yes			See C2-6 HC above
			☐ yes	☐ yes	☐ yes	☐ yes			

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

PRE-TEST

DART
AEROSPACE

Electric Swivel
SWA6A

Work Order 176762

Customer _____

Number of Wires ~~7~~ 4

Date 2018/05/03

Serial Number AC09002

Number of Cycles	Load (Lbs.)	Action	Pass/Fail
1	6,000	Check for Conductivity against all wires.	- PASS
1	6,000	Check all wires for grounding against swivel body.	- PASS
1	3,000	Check for Conductivity against all wires.	- PASS
1	3,000	Check all wires for grounding against swivel body.	- PASS
1	1,500	Check for Conductivity against all wires.	- PASS
1	1,500	Check all wires for grounding against swivel body.	- PASS
1	0	Check for Conductivity against all wires.	- PASS
1	0	Check all wires for grounding against swivel body.	- PASS

Test Conducted By: ALAN PATRY

Signature: _____

Technician

QC 5 Small FAB / QA

Submit



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039812**

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO039812
PO Date: 5/7/18
Due Date: 5/10/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174297	D4464-041	Fuel Tank Assembly ISSUE P/O : LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$234.00/pcs	\$234.00
2	176652	D212-664-101	Fwd Crosstube - High *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order.	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$224.00/pcs	\$224.00
	176653			Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$224.00/pcs	\$224.00
	176654			Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$224.00/pcs	\$224.00
	176655			Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$224.00/pcs	\$224.00
Sub Total:						4	0	4		\$896.00

3	176291	SWA6A-2-OH	Electric Swivel 6,000 lb Safe Work Load (2,721 kg)	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$89.00/pcs	\$89.00
4	176051	SWA15A-3-OH	Electric Swivel 15,000 lb Safe Work Load (6,818 kg)	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$89.00/pcs	\$89.00
5	176050	SWA15A-3-OH	Electric Swivel 15,000 lb Safe Work Load (6,818 kg)	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$89.00/pcs	\$89.00
6	176762	SWA6A-4-OH	Electric Swivel 6,000 lb Safe Work Load (2,721 kg)	Firmed	5/10/18	1 pcs	0 pcs ✓ 1x	1 pcs	\$89.00/pcs	\$89.00

Grand Total: \$1,486.00

Order Notes

reid AT 10/05/10

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO35939	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO039812
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON:

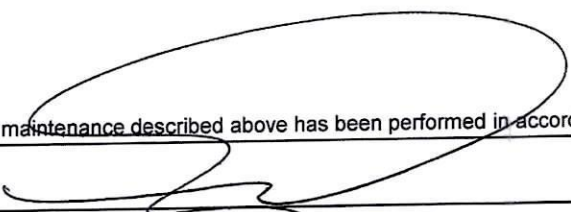
2 ELECTRIC SWIVEL (12 PARTS), P/N# SWA15A-3-OH , J/S# 176050 , 176051

1 ELECTRIC SWIVEL (5 PARTS), P/N SWA6A-4-OH , J/S# 176762

1 ELECTRIC SWIVEL (6 PARTS), P/N SWA6A-2-OH , J/S# 176291

Action Taken:						Date:	Initial/Stamp:
MPI C/O IAW ASTM E-1444M-12 DE-MAGNETIZED AS PER ASTM E-144494-A ***NO CRACK FOUND*** MAGBENCH S/N 208123 CAL DUE: 23-JUL-2018 POWDER 14A BATCH# MPO13600 CARRIER II BATCH# MPO20165						MAY 07 2018	 
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	
						DAS	
						38	
						9-89	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: MAY 07 2018
Name: RAFIK MELIKYAN		

Bill of Materials

Part No: SWA6A-4-OH	Component Part No:	Operation:
Part Operation:	Item No:	Part Status:
Active: ☒		

Part No	Description	Operation	Quantity	Component Part/Item	Component Name	Sub Components	Mfr Parts	Special Comments
SWA6A-4-OH	Electric Swivel	100-Start up	1 Ea/Ea	SWA6A-4-AR	Electric Swivel 6,000 lb Safe W	0		
	Electric Swivel	170-Small Fa	1 Ea/pc	188-FPSS-1032-1/2	Set Screw	0		5037670
			4 Ea/pc	188-FSCS-1032-5/8	Screw	0		5066767
			1 Ea/pc	C45-15-13	Sleeve	0		5031225
			5047764 6 ft/pc	EL414-ARTIC	4 Wire	0		6 Feet long
			1 Ea/pc	SWA6A-100	Lower End	1		
			1 Ea/pc	SWA6A-1100	Upper Bearing	1		
			1 Ea/pc	SWA6A-1200	Lower DU Bearing	0		
			1 Ea/pc	SWA6A-1300	Lower Thrust Bearing	0		
			1 Ea/pc	SWA6A-1400	Circlip Internal	0		
			1 Ea/pc	SWA6A-1800	Cover	1		
			4 Ea/pc	SWA6A-1900	Female Spade Terminal - 1/4"	0		
			1 Ea/pc	SWA6A-200	Upper End	1		
			4 Ea/pc	SWA6A-2000	1/8" Female Spade Connector	0		
			1 Ea/pc	SWA6A-300	Bearing Housing	1		
			1 Ea/pc	SWA6A-400 P	Thrust Washer	1		
			1 Ea/pc	SWA6A-500	Semi Rings	1		
			1 Ea/pc	SWA6A-600 P	Collar	1		
			2 Ea/pc	SWA6A-700A	Wire Clamp	1		
			1 Ea/pc	SWA6A-800B P	Connector Bushing	1		
			1 pcs/pc	SWA6A-900C	Rotary Contact	0		

5029413
5029416
5029420



Electric Swivel

SWA6A

Work Order 176 762 (5068421) Customer _____

Number of Wires SW A6A - 4 Date 15/05/15

Serial Number AC 09002

Number of Cycles	Load (Lbs.)	Action	Pass/Fail
1	6,000	Check for Conductivity against all wires.	- Pass
1	6,000	Check all wires for grounding against swivel body.	- Pass
1	3,000	Check for Conductivity against all wires.	- Pass
1	3,000	Check all wires for grounding against swivel body.	- Pass
1	1,500	Check for Conductivity against all wires.	- Pass
1	1,500	Check all wires for grounding against swivel body.	- Pass
1	0	Check for Conductivity against all wires.	- Pass
1	0	Check all wires for grounding against swivel body.	- Pass

Test Conducted By: ALAIN PATRY

Technician

Signature:
QC 5 Small FAB / QA